GRUSHINSKIY, N.P.; SAGITOV, M.U.

Gravity observations during a total solar exlipse.
Vest. Most. un. Ser.3: Fiz., astr. 17 no.5:46-53 S-O '62. (MIRA 15:10)

1. Kafedra nebesnoy mekhaniki i gravimetrii Moskovskogo universiteta.
(Gravity) (Eclipses, Solar)

33428
S/033/62/039/001/012/013
E032/E514

3,2500 (1080,1041,1057)

AUTHORS: Grushinskiy, N.P., and Sagitov, M.U.

TITLE: Some considerations on the gravitational field of the moon

PERIODICAL: Astronomicheskiy zhurnal v.39, no.1, 1962, 151-157

TEXT: The gravitational field of the moon is discussed on the basis of the latest published information. Published values for the ratio of the mass of the earth to the mass of the moon and for the mean radius of the moon are used to show that the average gravitational acceleration at the surface of the moon is 162.69 ± 0.20 cm·sec^{-2}. In the second section the authors are concerned with the variation of the gravitational field of the moon both in space and in time. Assuming that the moon may be looked upon as a triaxial ellipsoid, it is shown that the normal distribution of the gravitational acceleration is given by

$$\gamma(\varphi,\lambda) = \frac{\gamma_a + \gamma_b}{2}\left[1 - 0.00057\sin^2\varphi + 0.00008\cos^2\varphi\cos 2\lambda\right], \quad (10)$$

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Soviet-
bloc

33428

Some considerations on the ... S/033/62/039/001/012/013
E032/E514

The four latest English-language references read as follows: Ref.6: E. Rabe, Astron.J., 55, 4, 1950; Ref.7: E. Delano, Ibid, 55, 5, 1950; Ref.8: H. Jeffreys, Monthly Notices Roy.Astron.Soc., 102, 194, 1948; Ref 11: G. M. Clemance, Astron.J., 53, 6, 1948.

ASSOCIATION: Gos. astronomicheskiy in-t im P. K. Shternberga
(State Astronomical Institute imeni P. K. Shternberg)

SUBMITTED: October 21, 1961

X

Card 3/3

AM4024179 BOOK EXPLOITATION S/

Grushinskiy, Nikolay Panteleymonovich

Theory of the shape of the earth (Teoriya figury* Zemli) Moscow, Fizmatgiz, 63. 0446 p. illus., biblio., maps. University textbook. Errata slip inserted. 5,300 copies printed.

TOPIC TAGS: shape of earth, earth shape, earth figure, geometric method, astronomic method, gravimetric method, higher geodesy, spherical geodesy, normal gravitational field, anomalous gravitational field, astronomic gravimetric leveling

PURPOSE AND COVERAGE: This text is designed for students of gravimetry and astronomy of the physics and physics-mathematics departments of universities, and also gravimetry geodesy students in geodetic institutes as well as similar departments in military academies. It is based on lectures delivered by the author at the Moscow University for astronomy students, and covers the two ways of determining the shape of the earth -- by geodesy and by gravimetry. The author thanks the reviewer A. A. Mikhaylov, the scientific editors V. V. Brovar and A. I. Frolov, who edited the first five chapters, and also his colleagues M. U. Sagitov, M. S. Yarov-Yarovoy, V. G. Demin, G. D. Marchuk for many valuable hints made during the

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AM4024179

preparation of the book.

TABLE OF CONTENTS [abridged]:

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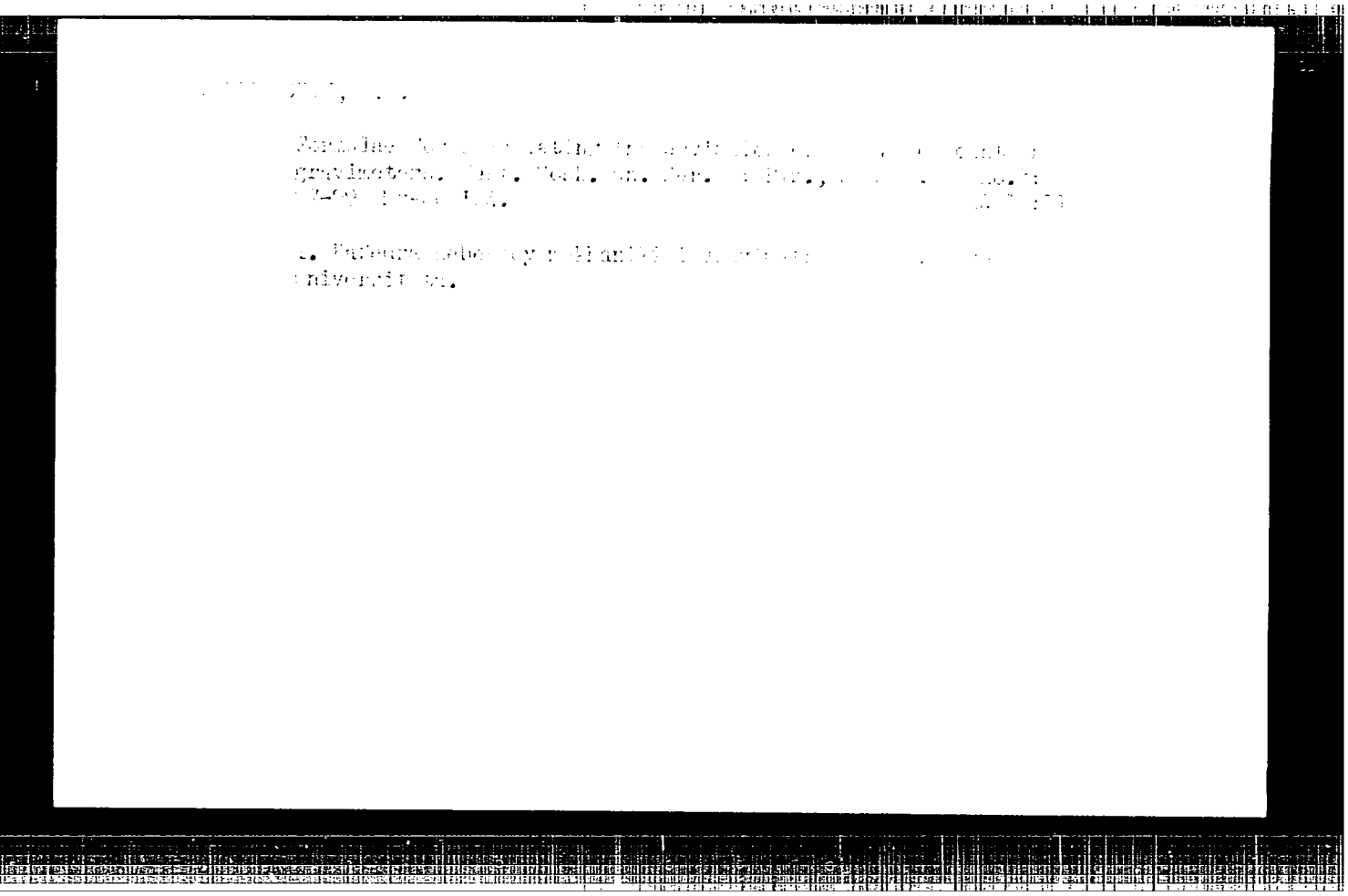
AM4024179

SUB CODE: AS SUBMITTED: 07Sep63 NR REF SOV: 133
OTHER: 082 DATE ACQ: 13Feb64
Card 3/3



L 19622-65 EWT(1)/FCC/EEC(t) Po-4/Pi-4 AFETR GW
ACCESSION NR: AP4047863 S/0188/64/000/005/0046/0049

AUTHOR: Grushinskiy, N. P.; Burova, N. G.; Turbeyeva, M. I.

TITLE: Construction of a schematic map of the thickness of the earth's crust according to surface relief and Bouguer anomalies

SOURCE: Moscow. Universitet. Vestnik. Seriya 3. Fizika, astronomiya, no. 5, 1964, 46-49

TOPIC TAGS: earth crust, surface relief, Bouguer anomaly, Moho discontinuity

ABSTRACT: This paper is an extension of previous work by the authors on the relation between relief of the Mohorovicic discontinuity (Moho) and both gravity anomalies and surface relief. Coefficients for these relationships were calculated separately for different regions of the earth using parameters obtained from 287 stations with known anomalies and 482 stations with known elevations. Each value of crust thickness determined seismically was related to the value of the anomaly or elevation, averaged over the area in square degrees below the equator. Division of the earth was modified because of the lack of gravimetric and seismic data for some regions, such as Australia, and unreliable data for the Pacific Ocean. The

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constants of the linear equations used in mapping the crust are tabulated for six major regions along with their r.m.s. errors. The depths to the Moho according to Bouguer anomalies were plotted at points corresponding to the centers of 5-degree trapezia and contours of equal depth, thereby mapping the relief of the Moho. A similar map was constructed on the basis of the surface relief of the earth. Comparison of the two maps showed fairly good agreement, that developed from surface relief showing smoother variations in thickness. The advantages of the method include: use of coefficients for major regions rather than universal ones; critical treatment of data; averaging according to clearly formulated rules; separate plotting according to anomalies and surface relief. The accuracy of the maps was checked by comparison with 147 seismically determined thicknesses collected by Solov'yev and Gurar and found to be on the order of 4 km, i.e., 10-12% low for the continents and 20% high above oceans. Orig. art. has: 4 tables, 4 maps and 2 equations.

ASSOCIATION: Kafedra nebesnoy mekhaniki i gravimetrii Moskovskogo universiteta (Department of Celestial Mechanics and Gravimetry, Moscow State University)

SUBMITTED: 20Sep63 ENCL: 00 SUB CODE: ES

NO REF SOV: 003 OTHER: 000

Card 2/2

ACC NR: AT6028022 SOURCE CODE: UR/0000/63/000/000/0105/0114

AUTHOR: Grushinskiy, N. P.; Sagitov, M. U.

ORG: none

TITLE: The role of sea currents in the studies of the external gravity field of the Earth

SOURCE: Moscow. Universitet. Astronomicheskiye institut. Geologicheskiy fakul'tet. Morskiye gravimetricheskiye issledovaniya; sbornik statey, no. 2, 1963, 105-114

TOPIC TAGS: gravity, current velocity, Estvos correction, gravity anomaly, earth oblateness, OCEAN CURRENT, GRAVIMETRIC SURVEY

ABSTRACT: Gravitational measuremtns carried out on vessels in deep seas contain ... errors which are caused by the unknown velocity of deep currents. The current velocity and its direction change seasonally. Tide currents also play a role in the determination of gravity. There are three ways to determine the current velocity and direction: by direct measurements, by comparison of currents in adjacent points, or by taking current velocities from charts containing averaged current velocities. Measurements of Soviet scientists stated that in the Pacific the current velocity at the depth of 750 m is one half of that at the surface. The Estvos correction for stream velocities in depth from 0.2 to 0.8 m/sec is from 3 to 12 milligalls. The means value of gravity anomalies caused by streams was found to be equal to 5 mgl.

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ACC NR: AT6028022

Zones with gravity anomalies of several mgal are distributed in oceans by latitude and stretch tens of thousands of km. Gravity anomalies were expanded into series of spherical functions, and the Estvos corrections may cause rough errors in the oblateness of the Earth. The authors expressed thanks to L. P. Pellinen for discussions and A. I. Shabanova and L. N. Kharmadzhev for their help. Orig. art. has: 7 figures, 5 tables, and 1 formula.

SUB CODE: 08/ SUBM DATE: 22Nov63/ ORIG RE:F 006/ OTH REF: 002

Card 2/2

107-5-16/54

AUTHOR: Grushka, Chenek, President of the Central Committee of SVAZARM, Lieutenant General

TITLE: Radioamateur's Sport in Czechoslovakia
(Radiolyubitel'skiy sport v Chekhslovakii)

Periodical: Radio, 1956, Nr5 p. 14 (USSR)

ABSTRACT: SVAZARM means Society for Aiding the Army of the Czechoslovakian Republic (Obshchestvo sodeystviya armii Chekhoslovatskoy Respubliki). The Society has many local radioham groups.

In 1955 the members of the Society helped to keep radio communications during the motocycle contest, Gotval'dov town; also in the sport contest in Prague, also in a ski contest where 323,000 people participated.

In 1954 two Czechoslovakian radio stations OK1KAX and OK1KRC established amateur radio communication at a distance 200 km on 1215 mc. In 1955 near Brno the Czechoslovakian hams established communication at a distance 500 m on 3300 mc.

more

A new instrument for determining the quality of concrete and other conventional devices were demonstrated at the recent exhibition in Prague.

16 best radiohams were awarded the title of Master of Sport; among them: Iozef Sedlachek, Vladimir Mosh, Iozef Mazkovich, Irzhi Mrazek, Yan Shima, Emil' Glom, Iozef Steglik of Prague, Genrikh Chinchura and Pavel Khorvat of Bratislava, Iozef Krchmarik of Novoye Mesto over Vag, Irzhi Gudets

Card 1/2

Radioamateur's Sport in Czechoslovakia

of Cheshski Brod, Yaroslav Gozman of Podebrad, Eduard Marynik of Piyeshtyana, Milosh Svoboda of Turnov, Vatslav Mantsl of Pil'zen'. (All names given in Russian transliteration).

ASSOCIATION: Central Committee of SVAZARM.

AVAILABLE: Library of Congress.

Card 2/2

10-58-3-19/29

AUTHORS: Grushka, E., Votrubets, Ts. (Czechoslovakia)

TITLE: Second Scientific Conference on Economic Geography in Czechoslovakia (II nauchnaya konferentsiya po ekonomicheskoy geografii v Chekhoslovakii)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya, 1958, Nr 3, pp 129-133 (USSR)

ABSTRACT: This is a translation of a Czechoslovakian-language article (Translators Yu.A. Demidovich and Yu.L. Pivovarov) published by the Czechoslovakian Academy of Sciences.

AVAILABLE: Library of Congress

Card 1/1

1. Geography - Economic aspects - Czechoslovakia

L 57577-65 EWT(l)/EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EEC(k)-2/EWP(i)/EPR/T/EWP(t)/EWP(b)/EWA(c) Pq-4/Pr-4/Ps-4/Pt-7 IJP(c) JD/WH

ACCESSION NR: AP5013727 UR/0070/65/010/003/0428/0429

548.0.537

AUTHOR: Grushka, K.

TITLE: Measuring coefficients of electrostriction in ammonium dihydrophosphate (ADP) crystals

SOURCE: Kristallografiya, v. 10, no. 3, 1965, 428-429

TOPIC TAGS: electrostriction, piezoelectric effect, crystallography

ABSTRACT: Coefficients of electrostriction were measured using two ADP samples in the form of rectangular bars consisting of ZX t 22°30' and XY t 45° cuts with dimensions l = 36.68 and 51.69 mm; b = 6.46 and 7.50 mm; and t = 2.11 and 2.48 mm respectively. Electrodes were of aluminum foil and covered 80% of the principal face area to eliminate surface breakdown. The applied electric field intensity was of the order of 10^6 watt^{-1}. Measurements were made using the interferometric method of observing the longitudinal static elongation or contraction of samples S_{ii} produced by an applied electric field $E_0{}^2$. The measured quantities, with an accuracy

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ACCESSION NR: AP5013727

of 15%, are as follows:

$$Q_{1133} = 7.9 \cdot 10^{-19} m^2 v^{-2},$$

$$Q_{2211} + Q_{3311} = 1.9 \cdot 10^{-19} m^2 v^{-2}.$$

In evaluating the effect of electric field on the frequency constant of longitudinal oscillations it was established that the frequency change $\Delta f(E)$ does not exceed the corresponding quality $\Delta f(E) / fE \approx 10^{-11} mV^{-1}$ for quartz resonators. The appearance of new electric, mechanical and other properties as second and higher order effects in piezoelectric crystals is associated with the change in crystal symmetry during the piezoelectric effect. Orig. art. has: 1 formula.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 13Apr64 ENCL: 00 SUB CODE: SS, EM

NO REF SOV: 002 OTHER: 002

Card 2/2

AUTHOR: Grushko, G. A.

72-58-5-9/18

TITLE: Quick Radiation Drying of Ceramic Tiling (Skorostnaya radiatsionnaya sushka keramicheskikh oblitsovochnykh plitok)

PERIODICAL: Steklo i Keramika, 1958, Nr 5, pp 29-33 (USSR)

ABSTRACT: As shown by the works of G. A. Kovel'man, P. M. Bruslinskaya and P. V. Sokolov (ref. 1), the drying time of ceramic floor tile is considerably reduced by radiation drying. In this connection it is of interest to investigate the process of heat and mass exchange in the interior of the ceramic tiles during radiation drying. This way it becomes possible to determine an optimal regime for this way of drying as well as to select a rational construction of the drying plant. Corresponding experiments were carried out by the author at the MEI Laboratory (Chair for Drying Plants and Heat Exchange Apparatus). As samples served raw platings of the Factory for Acid-Proof Materials at Katuarovsk of a size of 155 x 155 x 4.8 mm and with a humidity content of 0.06-0.07 kg/kg. In radiation drying the tiles are irradiated from both sides by ceramic radiators. In the case of combined drying the platings were additionally subjected to a hot

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air blast. At the same time, the kinetics of tile drying were investigated by measuring also the temperature in the interior of the plating. In many experiments the best technological properties of the tiles were found at a drying time of 4 minutes, at a temperature of the radiator of 550°C with a temperature drop between surface and center of the tile of 5°C in the first drying period. In figure 1 the curves of the kinetics during radiation drying are represented. In figure 2 a diagram is shown which was plotted by the author on the basis of the experimental data. These values were explained by the work by A. V. Lykov (ref. 1) which again is further explained by the author. In figure 3 the dependence of the drying intensity in the first period on the temperature drop between the surface and the center of the tile is shown. The obtained formula (5) proposed by P. D. Lebedev makes it possible to determine the intensity of combined drying as well as its duration by means of the parameters of the process. Based on the experiments carried out the construction of a continuous operation radiation plant can be proposed which is further described in detail. The experiments of the Drying Laboratory of the All-Union Heat Engineering Institute

imeni F. E. Dzerzhinskiy as well as of the Laboratory for Drying Plants and Heat Exchange Apparatus of the Moscow Power Engineering Institute showed that the radiation drying plants operate more economically than other devices. They also take less space and are not complicated in their construction; therefore they are not expensive either. They can easily be introduced to a conveyer belt system. Putting them into operation can be achieved within 30-45 minutes with small heat losses. These plants can also be regulated easily. All this makes it also possible to reduce production costs of the process.

There are 3 figures and 5 Soviet references.

AVAILABLE: Library of Congress

1. Ceramic materials--Processing 2. Radiation--Applications

Card 3/3

GRUSHKE, G.A., Cand Tech Sci -- (diss) "Study of methods for intensifying the drying of ceramic tiles." Mos, 1959, 13 pp with graphs (Min of Higher Education USSR. Mos Order of Lenin Chem Tech Inst im D.I. Mendeleyev). Chair of [redacted] General Technology of Silicates) 120 copies (KL, 28-59, 120)

GRUSHKE, G.A.

Intensification of drying processes in ceramic facing tiles by means of radiation. Silikaty no.1:32-45 '59. (MIRA 13:2)
(Tiles) (Drying apparatus)

KUNIN, N.F.; KUNIN, V.N.; GRUSHKEVICH, A.Ye.

Thermal ionization in a gasoline flame. Zhur.tekh.fiz. 32 no.4:485-487 Ap '62. (MIRA 15:5)

1. Chelyabinskiy politekhnicheskiy institut.
(Ionization of gases) (Combustion)

ABDULLAYEV, G., Geroy Sotsialisticheskogo Truda; GRUSHKIN, A., red.; ABBASOV, T., tekhred.

[Fulfilling the seven-year plan in two years; practices of the Karl Marx Collective Farm in Kalinin District of Tashkent Province] Semiletku - v dva goda; opyt kolkhoza im. Karla Marksa Kalininskogo raiona Tashkentskoi oblasti. Tashkent. Gos.izd-vo Uzbekskoi SSR, 1960. 39 p. (MIRA 14:2)

1. Predsedatel' kolkhoza im. Karla Marksa Kalininskogo rayona Tashkentskoy oblasti (for Abdullayev).
(Tashkent Province--Collective farms)

GALITSINSKIY, Panteleymon Konstantinovich; DEMIDOV, Sergey Ivanovich; OBUKHOV, Mikhail Nikolayevich; SAMOYLOV, Andrey Yemel'yanovich; GRUSHKIN, A., red.; ABBASOV, T., tekhn. red.

[Cotton varieties in Uzbekistan; results of state variety testing for 1950-1959] Sorta khlopchatnika v Uzbekistane; itogi gosudarstvennogo sortoispytaniia za 1950-1959 gg. Tashketn, Gosizdat, UzSSR, 1962. 219 p. (MIRA 15:7)
(Uzbekistan--Cotton--Varieties)

1. GRUSHKIN, A. R.

2. USSR (600)

4. Burns and Scalds

7. Use of the floating drop method for rapid diagnosis of plasma loss in burns. Novosti med. no. 24, 1951.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

GRUSHIN, A. R.

Director, Leningrad scientific research institute for first aid

"Left side appendicitis with transposition of the viscera," by B. N. Postnikov, Vest. khir. no. 4 Jl-Ag 1952.

[redacted], [redacted].

35856 Akademik Vladimir Afanas'yevich Obruchev. (K 86-Letiu So Dnya Rozhdeniya). Trudy In-ta Geologii (Akad. nauk Uzbek. Ssr), Vyp. 2, 1948, S. [redacted] Spisok.

SO: Letopis' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949

Problems of mineral genesis. G. G. Urusnkin (Tash-kent, Geol. Inst., Acad. Sci. Uzbek. S.S.R.). *Mineralog. Sbornik, L'vov. Geol. Obshchestvo* 4, 71-81(1950).—Discussion of the temp. of crystn. of quartz and fluorite and the formation of 1st and 2nd (and later) generation minerals.
Marie Siegrist

GRUSHKIN, G.G.; KHEL'VAS, I.G.

Crystallization of hydrothermal quartz from colloid solutions.
Min.sbor. no.5:113-126 '51. (MLRA 9:12)

1. Institut geologii Akademii nauk UzSSR, Tashkent.
(Quartz)

1. [illegible], [illegible].

2. USSR (600)

4. Ore Deposits

7. Concerning K. K. Konstantinov's criticism of Yu. A. Bilibin's ideas on the vertical zonal structure in ore deposits. Zap. Vses. min. ob-va 82, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

GRUSHKIN, G.G.

Results of a thermometric study of calcites. Zap.Uz.otd.Vses. min.ob-va no.6:109-115 '54. (MLRA 9:12)

1. Institut geologii Akademii nauk UzSSR.
(Calcite)

GRUSHKIN,G.G.

The position of a fluorite-mercury-antimony formation in contemporary classifications of ore deposits. Trudy Inst.geol.AN Uz.SSR no.11:128-145 '54. (MLRA 8:9)

(Geochemistry) (Ore deposits)

GRUSHKIN, G.G.

The relation between the uniformity of composition of ores and the uniformity of temperature conditions in their deposits. Zap. Vses.min.ob-va 84 no.1:130-132 '55. (MLRA 8:5)

1. Institut geologii Akademii nauk Uzbekskoy SSR.
(Ore deposits)

GRUSHKIN, G.G.

Formation of fluorite deposits in the Chatkal and Kurama ore-bearing regions. Geol. rud. mestorozh. no.1:92-104 Ja-F '61. (MIRA 14:4)

1. Kuraminskaya geologorazvedochnaya ekspeditsiya.
(Chatkal Range--Fluorite) (Kurama Range--Fluorite)

GRUSHKIN, G.G.

Some characteristics of the formation of fluorite deposits. Geol. rud. mestorozh. 6 no.1:15-32 Ja-F '64.

(MIRA 17:11)

1. Geologicheskiy institut Dal'nevostochnogo filiala Sibirskogo otdeleniya AN SSSR, Vladivostok.

VELICHKO, I. T.: GRUSHKIN, M. F.;

Tobacco Industry

Avoiding filling package seams on the NS package filler. Tabak 13 No. 4 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

1. GLUSHKIN, M. I.: [illegible]

2. USSR (600)

4. Tobacco Industry

7. How we raise the level of production and the quality of the product. Tabak 13 no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

GRUSHKIN, M.P. [Hrushkin, M.P.]; RED'KA, Yu.M.

Improving the pressing mechanism of chopping machines. Khar.prom. no.4:40-41 O-D '62. (MIRA 16:1)

1. Cherkasskaya tabachnaya fabrika.
(Tobacco industry--Equipment and supplies)

GRUSHKIN, M.P. [Hrushkin, M.P.]; FRANCHUK, O.B.

Device for trapping tobacco fibers in chopping machines. Khar.prom. no.4:41-42 O-D '62. (MIRA 16:1)

1. Cherkasskaya tabachnaya fabrika.
(Tobacco industry--Equipment and supplies)

GRUSHKIN, M.P. [Hrushkin, M.P.]

Modernization of the counting mechanism and of the cigarette shaking device of the "Puch" machine. Kharch.prom. no.4:75-77 O-D '63. (MIRA 17:1)

GRUSHKIN, M.P. [Hrushkin, M.P.]

Device for automatic stopping of the A-4 cigarette packaging machine. Khar. prom. no.2:61-62 Ap-Je '65. (MIRA 18:6)

GRUSHIN, V.F.; IEYKIN, Ye.M.

Calculating the correction to multiple Coulomb scattering with allowance for ionization losses. Prib. i tekh. eksp. 10 no.1:52-53 Ja-F '65. (MIRA 18:7)

1. Fizicheskiy institut AN SSSR.

GRUSHIN, V.V. (Moskva)

Relation between local and global properties of solutions to hypoelliptic equations with constant coefficients. Mat.sbor. 66 no.4:525-550 Ap '65. (MIRA 18:6)

ZUBOV.N, N.N.; GRUSHKINA, A.S.

Calculation of the influence of thermal factors on the compaction of ice in packs. Trudy AANII 271:89-96 '64.

(MIRA 18:2)

GRUSHKA, K.

Measurement of electrostriction coefficients in crystals of ammonium dihydrophosphate. Kristallografiia 10 no.3:428-429 My-Je '65. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy institut imeni M.V. Lomonosova.

IVANOVSKIY, Georgiy Ivanovich; GRUSHKO, A., red.; PAKHOLYUK, R., khudozh.-tekhn.red.

[The Zaporozh'ye Economic Administrative Region in the seven-year plan] Zaporozhskii ekonomicheskii administrativnyi raion v semiletke. Zaporozh'e, Zaporozhskoe knizhno-gazetnoe izd-vo, 1960. 62 p. (MIRA 13:9)

1. Predsedatel' Zaporozhskogo Soveta narodnogo khozyaystva (for Ivanovskiy).
(Zaporozh'ye Province--Economic policy)

SIDEL'NIK, Fedor Gavrilovich [Sidel'nyk, Fedir], svinar'; GRUSHKO, A. [Hrushko, A.], red.; PAKHOLYUK, R., tekhn.red.

[I shall compete with Iaroslav Chyzh] Pozmahaiemosia z Iaroslavom Chyzhem. Zaporizhzhia, Zaporiz'ke knyzhkovo-gazetne vyd-vo, 1960. 12 p. (MIRA 14:12)

1. Sovkhoz "Orekhovskiy", Zaporozhskoy obl. (for Sidel'nik).
(Swine--Feeding and feeds)

GRUSHKO, A.M. [illegible] NORENKO, P.S. [illegible] STOLBINA, L.F.

Steel of reduced hardenability for tractor parts. [illegible]
I term. obr. met. no.[illegible]22-29) N '65.

1. Volgogradskiy Vsesoyuznyy nauchno-[illegible] tekhnologii mashinostroyeniya.

[illegible]KO, A.P.

GRUDENKO, A.P. "The Effect of Methods of Mechanical Working of [illegible] on their Wear-Resistance under Conditions of [illegible] Friction in Reciprocating Motion." Acad Sci Ukrainian SSR. Inst of Structural Mechanics. Kiev-Nikolayev, 1955. (Dissertation for the Degree of Candidate in Technical Science)

So: Knizhnaya Letopis', No. 18, 1956.

PETROVA, T.R.; GRUSHKO, B.N.(Krasnodar)

Dispensary services for the rural population. Klin.med.
33 no.7:3-6 Jl '55. (MLRA 8:12)

1. Iz Kurganinskoy rayonnoy bol'nitsy Krasnodarskogo kraya.
(OUTPATIENT SERVICES,
rural in Russia)

GRUSHKO, G.F., otv. za vypusk

[Programs for individual and brigade training of electric gantry crane operators] Programmy dlia individual'noi i brigadnoi podgotovki mashinistov kozlovykh i portal'nykh elektricheskikh kranov. Moskva, Vses.uchebno-pedagog.izd-vo Proftekhizdat, 1959. 22 p. (MIRA 13:9)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po professional'no-tekhnicheskomu obrazovaniyu.
(Electric cranes)

LITVINENKO, Petr Antipovich; GRUSHKO, G.F., nauchnyy red.; PROKOF'YEVA, L.G., red.; PEREDERIY, S.P., tekhn.red.

[Training of stokers of industrial and heating boiler rooms operating on gas fuel; a textbook on methods] Podgotovka kochegarov promyshlennykh i otopitel'nykh kotel'nykh, rabotaiushchikh na gazovom toplive; metodicheskoe posobie. Moskva, Vses.uchebno-pedagog.izd-vo Proftekhizdat, 1961. 199 p. (MIRA 15:4)

(Boilers)

GRUSHKO, G.M., POLYAKOV, Z.A.

Means for improving planning and financing of drilling operations; a topic for discussion. Neft. khoz. 38 no.3:14-17 Mr '60. (MIRA 13:7)

(Oil well drilling)

GRUSHKO, G.S.

Pure bending of a bar (beam) with a semicircular aperture. Dop. AN URSR no.1:45-49 '54. (MLRA 8:4)

1. Kharkivs'kiy girnichniy institut. Predstavleno deystvitel'nym chlenom Akademii nauk USSR G.N.Savinym.
(Elasticity)

GRUSHKO, G.S.

Bending a beam with a semicircular opening under continuous shearing force. Dop. AN URSR no.1:50-53 '54. (MLRA 8:4)

1. Kharkivs'kiy girnichniy institut. Predstavleno deystvitel'nym chlenom Akademii nauk USSR G.N.Savinym.
(Elasticity)

GRUSHKO, G. S.

Grushko, G. S.

"The Distribution of Voltages around Apertures in the Form of a Semi-Circle." Min Higher Education USSR. Khar'kov Construction Engineering Inst. Kar'kov, 1955. (Dissertation for the Degree of Candidate Technical Sciences.)

Krizhnaya Letopis'; No. 27, 2 July, 1955

23159
S/024/61/000/003/007/012
E140/E463

6.9500

AUTHOR: Grushko, I.I. (Moscow)

TITLE: Optimal decoding device for systematic codes and certain types of channel

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1961, No.3 pp.105-109

TEXT: The article considers systematic (group) codes. A theoretical analysis is given to prove the following theorem. A Slepian decoder (Ref.4: Slepyan, D., A Class of Binary Signalling Alphabets, B.S.T.J. vol 35, 203. Abstractor's note: The author refers to a Russian translation, published in the collection "Teoriya peredachi soobshcheniy", IL, 1957.) is the maximum-likelihood decoder for a channel in which the noise affects individual code positions independently, i.e. for a given code it gives the maximum probability of correct reception of code combinations for this channel. A procedure for constructing the maximum-likelihood decoding table for an arbitrary channel is given, and illustrated for the binary symmetric channel and for a channel with memory, in which the stochastix matrix is given by

Card 1/2

S/024/61/000/003/007/012
E140/E463

Optimal decoding device ...

$$p_{ii} = q$$

$$p_{ij} = e^{-a(i-j)^2}, \quad i \neq j$$

where p_{ij} is the probability that in transmission of the i-th symbol it will be identified at the receiver as the j-th symbol. There are 1 figure, 1 table and 4 Soviet references.

SUBMITTED: January 31, 1961

S/024/62/000/006/019/020
E140/E135

AUTHORS: Velichkin, A.I., and Grushko, I.I. (Moscow)

TITLE: Optimal irredundant codes

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Energetika i avtomatika, no.6, 1962, 171-177

TEXT: The problem considered is the coding of amplitude levels in pulse-code modulation for remote-control systems. The Gray code is an irredundant code constructed according to a given law. Given a certain matrix of a function of the transition probabilities between the quantisation levels to be coded, the problem is to minimise the error in the presence of (assumed) single errors in each code group according to a given probability distribution. It is shown that in general the Gray code is not the optimal for this problem, under the assumption of single errors in the code groups. A matricial method is given for obtaining such optimal codes.

SUBMITTED: February 21, 1962

Card 1/1

35379
S/108/62/017/003/005/009
D299/D301

9.3279

AUTHORS: Borodin, L.F., and Grushko, I.I., Members of the Society (see Association)

TITLE: On the usefulness of introducing redundancy intervals

PERIODICAL: Radiotekhnika, v. 17, no. 3, 1962, 37 - 47

TEXT: The feasibility is considered of increasing the probability of proper reception of error-correcting code combinations, through the introduction of redundancy intervals. The necessary and sufficient conditions are formulated which would make the introduction of such an interval useful. Simple estimates are obtained for redundancy intervals maximizing the probability of correct reception and minimizing the probability of error. In the transmission of independent messages over discrete channels, it is convenient to use optimal error-correcting codes; this applies in particular to communication systems, whose operation is judged by one of the following criteria: 1) Q - the maximum probability of correct reception of each of the messages; 2) P - the minimum probability of incorrect reception of each of the messages for a given probability Q. It is

Card (1/4)

On the usefulness of introducing ...

proposed maximizing Q and minimizing P for Q = const., by transforming the symmetrical channel into a symmetrical channel with redundancy, i.e. into a channel at whose input γ signals $b_1, \ldots b_\gamma$ are applied, and at whose output one obtains $\gamma + 1$ signals $b_1, \ldots, b_\gamma$. x. The statistical properties of a symmetrical channel with redundancy are determined by 3 probabilities. Formulas are obtained which hold for any symmetrical channel; for convenience however, a binary symmetrical channel is considered (without affecting the generality of the analysis). The combinations Z of the optimal error-correcting code are written in the form

$$z_1^{\nu}, \ldots, z_j^{(\nu)}, \ldots, z_n^{(\nu)}. \qquad (4)$$

On introduction of a redundancy interval, the coincidence device starts operating as an error-correcting and error-detecting device, even if it was only error-correcting before that. The probability of correct reception of the code combination is:

Card 2/4

On the usefulness of introducing ...

$$Q(s) = \sum_{i=0}^{K} C_n^i s^i Q_{n-i}(s) \qquad (19)$$

where $Q_{n-i}(s)$ denotes the "mean" probability of correct reception under the condition that the combination contains i symbols x. The introduction of the redundancy interval is justified if for some $s \neq 0$,

$$Q(s) \geqslant Q_n. \qquad (23)$$

Hence the necessary and sufficient condition for (23) to hold, is

$$\left.\frac{\partial Q(s)}{\partial s}\right|_{s=0} \geqslant 0. \qquad (24)$$

By differentiating Eq. (19), one obtains

$$\left.\frac{\partial Q(s)}{\partial s}\right|_{s=0} = nQ_{n-1}(0) - \frac{nQ_n(0)}{2q_0} \qquad (25)$$

Card 3/4

$$-\frac{1}{2}(q_o - p_o)\sum_{j=0}^{\Delta_n} j\,\alpha_j p_o^{j-1} q_o^{n-j-1} \geqslant 0, \qquad (25)$$

which is necessary and sufficient condition, justifying the introduction of the redundancy interval. The maximum gain obtained thereby, is estimated; this gain, denoted by $\Delta Q = Q(s_o) - Q_o$, is found to be

$$\Delta Q \approx \frac{ns_1}{4}\left[Q_{n-1}(0)(1 + 2p_o) - \frac{Q_n(0)}{q_o}\right]. \qquad (44)$$

There are 6 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc (in translation).

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im.A.S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communications imeni A.S. Popov) [Abstractor's note: Name of Association taken from first page of journal]

SUBMITTED: September 30, 1961

BORODIN, L. F.; GRUSHKO, I. I.

"Les systemes adaptatifs de decodage."

report submitted for 4th Intl Cong, Cybernetics, Namur, Belgium, 21-25 Oct 64.

ACCESSION NR: AP4038607 S/0109/64/009/004/0571/0577

AUTHOR: Grushko, I. I.

TITLE: Structural characteristics of a class of optimum linear codes

SOURCE: Radiotekhnika i elektronika, v. 9, no. 4, 1964, 571-577

TOPIC TAGS: code, linear code, optimum linear code, group code, optimum group code

ABSTRACT: Codes (n, m, γ) are considered which are derived from the functions belonging with a maximum set $M[f(\bar{x})]_\gamma^*$ of linear forms of m variables over the field $GF(\gamma)$; each $\nu(1 \leq \nu \leq m)$ of these forms are linearly independent. These group codes are optimum with respect to the maximum criterion d_{min}. The number of inclusions of definite sets of GF(γ)-field elements into the code combination is explored. The group code is described by a group matrix which is formed by writing the code combinations, each line immediately under the

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ACCESSION NR: AP4038607

preceding one. It is proven that, among the lines of a submatrix Γ_t set up from any $t(1 \leqslant v)$ columns of the group matrix, any line occurs exactly γ^{m-t} times. The structural characteristics of cyclic maximum-period sequences are investigated as an illustration of the above theory. "In conclusion, I wish to thank L. F. Borodin very much for his valuable advice regarding this work." Orig. art. has: 18 formulas.

ASSOCIATION: none

SUBMITTED: 15Mar63 DATE ACQ: 05Jun64 ENCL: 00

SUB CODE: DP NO REF SOV: 003 OTHER: 002

Card 2/2

L 24456-65 EWT(1)/EWA(h) Peb ASD-3

ACCESSION NR: AP4046674 S/0109/64/009/010/1749/1756

AUTHOR: Grushko, I. I.

TITLE: One approach to the problem of corrective abilities of group codes

SOURCE: Radiotekhnika i elektronika, v. 9, no. 10, 1964, 1749-1756

TOPIC TAGS: coding, group code, code correction, linear coding

ABSTRACT: Group codes are constructed either (a) as optimal with respect to the criterion of maximum of the code distance d_{min} or (b) for correcting error bursts and packets. The general problem of improving either group code usage so as to reduce the errors connected with use of the other code is analyzed. The general problem of the linear decoding of a specified set of noise is considered. The possibility of using a class of binary equidistant codes (specifically, maximum-period binary cyclic codes) for the simultaneous correction of independent errors and error packets is explored. It is pointed out that the

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L 24456-65
ACCESSION NR: AP4046674

results obtained for the binary case can be extended over the case of an arbitrary finite field. Orig. art. has: 22 formulas and 2 tables.

ASSOCIATION: none

SUBMITTED: 27Jul63 ENCL: 00

SUB CODE: DP NO REF SOV: 003 OTHER: 001

Card 2/2

ACC NR: AP6019725 SOURCE CODE: UR/0108/66/021/006/0062/0071

AUTHOR: Borodin, L. F. (Active member of the society); Grushko, I. I. (Active member of the society)

ORG: Scientific and Technical Society of Radio Engineering and Electrocommunication im. A. S. Popov (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Adaptive decoding systems [Reported at the All-Union NTORiE Conference, May 1964]

SOURCE: Radiotekhnika, v. 21, no. 6, 1966, 62-71

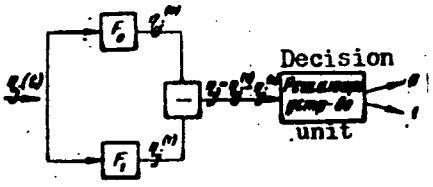
TOPIC TAGS: digital decoder, ~~digital~~ radio communication system, adaptive ~~decoding~~ control

ABSTRACT: Some points associated with the adaptive decoding of digital radio signals are discussed. The procedure of passing decision re the received signal depends on the channel condition. With a preset upper limit of incorrect-decoding probability, the rate of transmission is maximized. The entire problem of optimization of message transmission is not tackled; only a few principal techniques for solving this problem are discussed. Mixed with noise, a sequence of signals: $\eta_1(t), \eta_2(t), \ldots, \eta_j(t), \ldots, \eta_n(t)$, arrives at the receiver. Each signal can be

Card 1/2 UDC: 621.391.154

ACC NR: AP6019725

represented as: $\eta_j(t)=\mu y_i(t)+\xi(t)$, where $i = 0, 1$, μ is the attenuation, and $\xi(t)$ is a stationary random process with a zero average value and a known correlation function. A random signal $\eta_i(t)$ is simultaneously processed in filters F_0 and F_1 (see figure) which try to determine whether this signal resembles $y_0(t)$ or $y_1(t)$ transmitted into the channel. Random values $\eta_j^{(0)}$ and $\eta_j^{(1)}$ are the results of this processing; one of these values is subtracted from the other, thus revealing which of these values represents the original signal. In an adaptive decoder, the received signal is applied to a channel-monitoring device where a decision re the channel condition is reached. If the channel condition ensures that the probability of error is under its preset value, the decoded signal is regarded as true. If the signal-to-noise ratio is higher than its preset value, a different decision (e.g., RQ) is made; meanwhile, the received signal is either knocked off or stored. The above procedure is a modification of the method of reception based on the most reliable symbols. Orig. art. has: 9 figures and 8 formulas.



SUB CODE: 17 / SUBM DATE: 28Jul64 / ORIG REF: 005

Card 2/2

GRUSHKO, I.M., inzh.

Using vibrators in mixing concrete mixes. Avt. dor. 23 no.8:17-18 Ag '60. (MIRA 13:8)
(Vibrators) (Concrete)

GRUS[illegible]KO, I. [illegible], [illegible].

[illegible] of the moistening of fillers on the durability of concrete. Avt.dor. 24 no.9:1[illegible]-1[illegible] S '61. (MIRA 14:10)
(Concrete--Testing)

GRUSHKO, I.M., inzh.

Qualitative index for sand used in road cement concrete. Sbor. trud. Khab. avt.-dor. inst. no.2:94-99 '62. (MIRA 18:4)

1. Khar'kovskiy avtomobil'no-dorozhnyy institut.

VOLKOV, Mikhail Ivanovich, prof.; [illegible]MOSHCH, Ivan M[illegible]haylovich, dots.; KOROLEV, Igor', Vasil'yevich, dots. Prinimal uchastiye GRUSHKO, I.M., kand. tekhn. nauk; KALERT, A.A., prof., retsenzent; LYSIKHINA, A.I., kand. tekhn. nauk, retsenzent; RUDENSKAYA, I.M., retsenzent; SYUN'I, G.K., retsenzent; KHOMYAKOV, Ye.M., retsenzent; TOMACHINSKIY, V.N., st. prepod., retsenzent; YEGOZOV, V.P., inzh., red.

[Road materials] Dorozhno-stroitel'nye materialy. Moskva, Transport, 1965. 521 p. (MIRA 18:9)

IL'IN, A.G., kand.; GUSENKO, I.M., kand.tekhn.nauk

Structure of road cement concrete and its strength.
Avt.dor.i dor.stroi. no.1:74-81 '65.
(MIRA 18:11)

1. Kazanskiy, B.A. (Acad.), Grushko, I.Ye.

2. USSR (600)

4. Hydrogenation

7. Catalytic hydrogenation of certain tri-substituted ethylenses in the presence of nickel. Dokl. AN SSSR 87 no.5, 1952.

9. Monthly List of Russian Accessions. Library of Congress, March 1953, Unclassified.

SHUYKIN, N.I.; GRUSHKO, I.Ye.; BEL'SKIY, I.F.

Use of the nickel catalyst in the Kizhner reaction for hydrazone degradation. Izv.AN SSSR.Otd.khim.nauk no.5:622-624 My '56. (MLRA 9:9)

1.Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii nauk SSSR.
(Catalysts, Nickel) (Hydrazones)

SOV/79-29-6-23/72

5(3)

AUTHORS: Shuykin, N. I., Bel'skiy, I. F., Grushko, I. Ye.

TITLE: On the Reaction of Tetrahydrofuran With Halogen Silanes (O vzaimodeystvii tetragidrofurana s galoidsilanami)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 6, pp 1882 - 1885 (USSR)

ABSTRACT: From among all organic oxides those chemical transformations of the ethylene oxides are investigated most thoroughly, which yield the aliphatic compounds with reactive groups by the ready opening of the α-oxide ring under the influence of various agents. Far less investigated are the chemical transformations of the γ-oxides of tetrahydrofuran and its homologs. They possess a considerably lower reactivity and are of great importance for the organic synthesis since they can yield the 1,4-bifunctional derivatives of the aliphatic series: the dihalogen-alkanes, dinitriles, glycols, halogen-hydrins; besides the tetrahydrofuran derivatives are a sufficiently accessible and cheap material. In the present paper the reaction of tetrahydrofuran with alkyl- and aryl-chloro-silanes with two or three chlorine atoms in the molecule was investigated. It takes place only in the presence

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of anhydrous zinc (II) chloride in different directions according to the number of chlorine atoms in the chloro silane molecule. Methyl-dichloro-silane and dimethyl-dichloro-silane split up the tetrahydrofuran ring at both C-O bonds with 1,4-dichloro-butane being formed as main product (Scheme 1). In contrast to the dichloro-silanes the reaction of tetrahydrofuran with alkyl and aryl-trichloro-silanes takes place with ring opening only at one C-O-bond and yields the chlorine-substituted ester of the ortho-silicic acid (Scheme 2). In all cases the yields in mono-(δ-chloro-butoxy)-dichloro-silanes are very high (80-90%). Two chlorine atoms in the molecule of the mono (δ-chlorobutoxy)-dichloro-silane are active, but react mainly under formation of 1,4-dichloro-butane (Scheme 3). An interpretation of this reaction is suggested. The compounds synthesized are listed in two tables. There are 2 tables and 11 references, 1 of which is Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences, USSR)

SUBMITTED: April 18, 1958

5(3) SOV/79-29-8-29/

AUTHORS: Shuykin, N. I., Bel'skiy, I. F., Grushko, I. Ye.

TITLE: On the Reaction of Tetrahydrosylvane With Silicon Tetrachloride

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2591 - 2594 (USSR)

ABSTRACT: In the present paper, the authors investigated the reaction of tetrahydrosylvane with silicon tetrachloride. This reaction takes place only in the presence of anhydrous zinc chloride. The reaction products underwent an intense decomposition in the vacuum distillation. For this reason, they were previously subjected to a hydrolysis with water. The products of this hydrolysis had to be fractionated at reduced pressure with a column top section. In this connection, the 1,4-dichloropentane (15-20%) and the chlorine-substituted amyl alcohol (70-80%) were separated, the latter of which was likewise obtained on hydrolysis of the chlorine esters of silicic acid (Scheme 1). Depending on the cleavage of the C-O bond in position 1-2 or 1-5, the alcohol can be formed with a primarily (I) or secondarily (II) bound hydroxyl group (4-chloro-pen-

Card 1/2

tanol-1 or 5-chloro-pentanol-2). The structure of the chlorohydrin obtained by hydrolysis was confirmed according to the transformations of scheme 2. The reducing dehalogenation of 2-chloro-5-acetoxy-pentane (III) on platinized carbon in the vapor phase proceeds smoothly and with high yields (95%) at the primary amyl acetate (IV). The chlorohydrin obtained by hydrolysis of the reaction products of tetrahydrosylvane with $SiCl_4$ thus represents the 4-chloro-pentanol-1. This means that the ring in the tetrahydrosylvane is cleft at the C-O bond adjoining the methyl group, under the influence of $SiCl_4$. There are 1o references, 4 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences, USSR)

SUBMITTED: July 4, 1958

S/079/61/031/003/005/013
B118/B207

AUTHORS: Shuykin, N. I., Bel'skiy, I. F., and Grushko, I. Ye.

TITLE: Reaction of α-alkyl tetrahydrofuranes with silicon tetrachloride

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 3, 1961, 815-819

TEXT: The authors studied the reaction of α-ethyl and α-propyl tetrahydrofurane with $SiCl_4$, and showed that the ethyl and propyl groups exert the same effect upon the opening direction of the tetrahydrofurane cycle as the methyl radical in tetrahydrosylvane. The main reason for studying the hydrolysis and thermal splitting of δ-chloro alkoxy chloro silanes thus obtained was to determine the structure of the resulting chloro hydrins and chloro alkenes. The above furane derivatives react with $SiCl_4$ more difficultly than the latter with tetrahydrosylvane. This is obviously due to the steric "screening effect" of the alkyl side group upon the adjacent C-O bond. α-ethyl tetrahydrofurane splits quantitatively (at a molar ratio of 2:2 to $SiCl_4$) after heating for 17 hr, in the presence of 2 g of anhydrous

Card 1/4

Reaction of ...

zinc chloride and under the formation of chloro alkyl esters of orthosilicic acid, while, under the same conditions, 35% of the α-propyl tetrahydrofurane remains unchanged. These two compounds are split by $SiCl_4$ only at the C-O bond which is adjacent to the alkyl group. This was confirmed by hydrolysis of the chloro alkyl esters of orthosilicic acid, (δ-chloro alkoxy chloro silane) with water, which gives rise to the formation of δ-chlorine-substituted hexyl or heptyl alcohol, from which acetates were obtained. Subsequently, these acetates were reduced to n-hexyl and n-heptyl acetates on Pt-C at 300°C in the vapor phase:

$$-CH_2CH_3 \xrightarrow[(ZnCl_2)]{SiCl_4} SiCl_n\text{-}(OCH_2CH_2CH_2CHClCH_2CH_3)_{4-n} \xrightarrow{H_2O}$$

$$\longrightarrow HOCH_2CH_2CH_2CHClCH_2CH_3 \xrightarrow{(CH_3CO)_2\,O} CH_3COOCH_2CH_2CH_2CHClCH_2CH_3 \longrightarrow$$

$$\xrightarrow[Pt/C\ 300^oC]{H_2} CH_3COOCH_2CH_2CH_2CH_2CH_3.$$

Owing to these results, it is assumed

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B118/B207

Reaction of ...

that in the reaction of α-alkyl tetrahydrofuranes with $SiCl_4$ in the presence of ZnO_2, the former open their cycles only at the C-O bond which is adjacent to the alkyl radical. The δ-chloro alkoxy chloro silanes obtained in the above reaction are thermally extremely unstable and decompose when distilled. Chloro alkenes (40-50% yield) are one of the decomposition products. The chloro pentenes obtained by thermal decomposition of δ-chloro pentoxy chloro silanes were subjected to structural analysis; the latter result from the reaction of $SiCl_4$ with tetrahydrosylvane. The position of the chlorine atom and the double bond was studied: a Grignard compound was obtained from the chloro pentenes, which, after oxidation and treatment with dilute hydrochloric acid, yielded a mixture of unsaturated primary amyl alcohols when cooled. These were converted into primary amyl alcohols when hydrogenated. The position of the double bond was determined by studying the hydrolysis products of the organo-magnesium compound resulting from the mixture of chloro pentenes; analysis showed that the pentenes thus obtained consisted of 85% pentene-2 and 15% pentene-1. Thus, the chloro pentenes obtained from tetrahydrosylvane and $SiCl_4$ contain an initially bound chlorine atom in

Card 3/4

S/079/61/031/003/005/013
B118/B207

Reaction of ...

position 5, and two double bonds in positions 1 and 2. There are 6 references: 2 Soviet-bloc and 4 non-Soviet-bloc. The 2 references to English-language publications read as follows: Faraday's Encyclopedia of Hydrocarbon compounds. C_7. Manchester (1953); US Patent 2, 424, 184 (1947).

ASSOCIATION: Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: April 23, 1960

Card 4/4

SHUYKIN, N.I.; BEL'SKIY, I.F., GRUSHKO, I. Ye.

Reactions of α-alkyltetrahydrofurans with silicon tetrachloride.
Zhur. ob. khim. 31 no.3:815-819 Mr '61. (MIRA 14:3)

1. Institut organicheskoy khimii imeni N. D. Zelinskogo AN SSSR.
(Silicon chloride)
(Furan)

S/020/61/141/003/010/021
B103/B101

5 3700 2209

AUTHORS: Shuykin, N. I., Corresponding Member AS USSR, Grushko, I. Ye., and Bel'skiy, I. F.

TITLE: Interaction of α-methyl trimethylene oxide with chloro silane derivatives, aluminum chloride and titanium tetrachloride

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 3, 1961, 649-651

TEXT: The present work studies the interaction of α-methyl-trimethylene oxide (MTMO) with (1) $SiCl_4$, (2) CH_3SiCl_3, (3) $C_6H_5SiCl_3$, (4) $AlCl_3$, (5) $TiCl_4$, and (6) HCl. The position of the cleavage of the β-oxide ring containing an alkyl group in α-position was to be established. (1), (2), and (3) react vigorously with MTMO at room temperature without a catalyst. Distillation under reduced pressure yielded chlorine-substituted esters of ortho-silicic acid. The reaction therefore proceeds according to the following processes:

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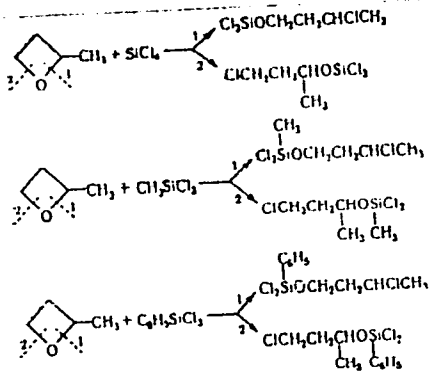
B103/B101

Interaction of α-methyl ...



These esters, $Cl_2SiOC_4H_8Cl$ (b.p. 56°C/5 mm Hg), $CH_3SiCl_2OC_4H_8Cl$ (b.p. 39°-42°C/5 mm Hg), and $C_6H_5SiCl_2OC_4H_8Cl$ (b.p. 132°-136°C/8 mm Hg), yielded the chlorohydrins on hydrolysis. To (6): Dry HCl was passed thru a layer of pure MTMO at the boiling point of the latter. By the

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B103/B101

Interaction of α-methyl ...

heat of reaction, the temperat re of reaction mixture finally rose to 105°-110°C. To (4) and (5): The reacti n with MTMO is so vigorous, that it can only be carried out satisfactorily at -50° and -60°C. Hydrolysis of the reaction products by water in etheric medium yields alcohols containing primary or secondary chlorine atoms. All the Raman spectra of these chlorohydrins exhibited an extremely intense band at 660 cm^{-1} characteristic for primary chlorine atoms. The band indicating secondary Cl atoms was weaker. From this it is assumed that the chlorohydrin mixture contains mainly 4-chloro 2-butanol. It is concluded that the treatment of α-MTMO with (1)-(6) primarily leads to cleavage at the ether bond not adjoining a methyl group. In this connection it is pointed out that unsymmetric γ-oxides, e.g. tetrahydrosilvan, are cleaved at the C-O bond next to a methyl group under the influence of chloro silanes. The authors thank G. K. Gayvoronskaya for taking the spectra. There are 1 table and 6 references: 1 Soviet and 5 non-Soviet. The four references to English-language publications read as follows: C. G. Derrick, D. W. Bissel, J. Am. Chem. Soc., 38, 2483 (1916); S. Searles et al. J. Am. Chem. Soc., 79, 952 (1957); R. J. Meltzer, J. A. King, J. Am. Chem. Soc., 75, 1356 (1953); F. Sondheimer, R. B. Woodward, J. Am. Chem. Soc., 75,

Card 3/4

Interaction of α-methyl ...

5438 (1953).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: July 13, 1961

SHUYKIN, N.I.; BEL'SKIY, I.F.; GRUSHKO, I.Ye.

Interaction of β- and γ-oxides with phosphorus chlorides.
Izv.AN SSSR.Otd.khim.nauk no.3:557-558 Mr '63. (MIRA 16:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Phosphorus chlorides) (Oxides)

SHUYKIN, N.I.; BEL'SKIY, I.F.; GRUSHKO, I.Ye.; KARAKHANOV, R.A.

Synthesis of 1,3,4-trihaloalkanes. Izv. AN SSSR. Otd.khim.nauk no.6:1088 Je '63. (MIRA 16:7)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.
(Paraffins) (Halogen compounds)

BEL'SKIY, I.F.; SHUYKIN, N.I.; GRUSHKO, I.Ye.; SHOSTAKOVSKIY, V.M.

Interaction between esters of β-tetrahydrofurylpropionic acid and its α-alkyl-substituted derivatives and phosphorus tribromide. Izv. AN SSSR. Ser. khim. no.9:1670-1671 '65. (MIRA 18:9)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

GRUSHKO, L.S.

Improve the quality, reduce the losses of paper. Bum.prom. 36 no.2: 5-7 F '61. (MIRA 14:2)

1. Predsedatel' Moskovskogo Pravleniya Nauchno-issledovatel'skogo obshchestva poligrafii i izdatel'stv.
(Paper)

SHORNIKOVA, N.M.; GRUSHKO, M.F.

Chemical and technological grading of rhubarb. Kons.i ov.prom. 15 no.10:16-19 O '60. (MIRA 13:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut ovoshchevodstva i kartofelya.

(Rhubarb)

GRUSHKO, M.F.

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(Ukraine--Greens, Edible)

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(Peas) (Kidney bean)

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BORIN, Ya.V., prof.; OL'GINA, F.P., dotsent; GRUSHKO, N.Ya.; LYASHKEVICH, A.S.; KUCHERAK, I.S.

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GRUSHKO, O. L.

Sludge level indicator for lubricating oil refining equipment. O. L. Grushko and G. A. Morosov. U.S.S.R. 103,775, Sept. 25, 1956. The device is essentially an elec. circuit comprising an electrode inside a porcelain insulator and mounted inside the agitator at a level corresponding to the min. height of the acid sludge. The electrode, the sludge, and the agitator itself form a circuit which includes a galvanometer to indicate the resistance. M. Hosch